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REMARKS

The present response is intended to be fully responsive to all points of objection and/or rejection raised by the Examiner and is believed to place the application in condition for allowance. Favorable reconsideration and allowance of the application is respectfully requested.

Applicants assert that the present invention is new, non-obvious and useful. Prompt consideration and allowance of the claims is respectfully requested.

Status of Claims

Claims 50-58 are pending in the application.

Claims 50-58 have been rejected.

Claim 50 has been amended in this submission.

Claim Objections

In the Office Action, the Examiner objected to claims 50 and 58 because of alleged informalities. Claim 50 has been amended in order to cure these informalities. Accordingly, Applicants request withdrawal of the objection.

CLAIM REJECTIONS

35 U.S.C. § 103 Rejections

In the Office Action, the Examiner rejected claims 50-51, 55 and 58 under 35 U.S.C. § 103(a), as being unpatentable over Stuebe et al. (US Patent No. 5,117,827) in view of Reichstein (US Patent No. 4,632,119), further in view of Steffel et al. (US Patent No. 4,326,535, and even further in view of Ishikawa et al. (US Patent No. 6,398,710).

Also, the Examiner rejected claims 52-54 under 35 U.S.C. § 103(a), as being unpatentable over Stuebe et al. (US Patent No. 5,117,827) in combination with Reichstein (US Patent No. 4,632,119), Steffel et al. (US Patent No. 4,326,535) and Ishikawa et al. (US Patent No. 6,398,710), further in view of Brune (US Patent No. 5,984,875).

Further, the Examiner rejected claims 56-57 under 35 U.S.C. § 103(a), as being unpatentable over Stuebe et al. (US Patent No. 5,117,827) in combination with Reichstein (US Patent No. 4,632,119), Steffel et al. (US Patent No. 4,326,535) and Ishikawa et al. (US Patent No. 6,398,710), Brune (US Patent No. 5,984,875), further in view of Kumar et al. (US Patent No. 6,416,471).

The combination of Stuebe et al., Reichstein, Steffel et al., Ishikawa et al., Brune and Kumar et al. does not disclose Applicants' invention as recited in amended independent claim 50. Moreover, any combination of these references—including combinations in which one or more of these references are not included—does not disclose Applicants' invention as recited in amended independent claim 50. In particular, none of these references discloses a system for measuring physiological parameters in the body of a patient indicative of gastroesophageal reflux comprising a plurality of sensors adapted to be implanted in the body of a patient, wherein each of the plurality of sensors is capable of independently measuring a physiological parameter indicative of gastroesophageal reflux different from other physiological parameters indicative of gastroesophageal reflux measured independently by other sensors.

Neither Steffell et al. nor Brune discloses a "plurality of sensors adapted to be implanted in the body of a patient, wherein each of the plurality of sensors is capable of independently measuring a physiological indicative of gastroesophageal reflux...." Steffell discloses a circuit and method for radio telemetry of an esophageal pH signal; the circuit has an esophageal pH electrode 16 usually inserted through patient's nasal passage and a reference pH electrode 17 for attachment to the patient's skin. There is no plurality of sensors adapted to be implanted in the patient's body disclosed in Steffell. Further, the sensors in Steffell both measure the same physiological parameter in a dependent manner. That is, electrode 17 is a reference pH electrode implying that the pH value measured by electrode 16 is dependent on the value measured by pH electrode 17. See col. 3, of Steffell et al.

Brune discloses a system in which boluses (i.e., sensors) are ingested by animals to monitor one or more physiological parameters of an individual animal in a group or herd. Each of the boluses transmits a unique identification code. Based on the unique identification code, the data for a particular animal within the group or herd can be identified. The key aspect of Brune is that "a unique identification number can be assigned to a multiplicity of ingestible boluses, each of which can be administered to different animals. In this manner, each of a plurality of animals, e.g., cows in a herd, can be implanted with the ingestible boluses, and the temperature of each animal can be individually monitored." See col. 5, lines 54-60. Nowhere in Brune does it disclose a plurality of sensors adapted to be implanted in the body of a patient. Assuming one can equate the body of a patient to that of an animal, in Brune, each animal has one bolus implanted within its body. Brune does not disclose a system in which a plurality of sensors is implanted in the body of one animal.

Ishikawa et al. and Reichstein disclose systems with a plurality of sensors; however these sensors measure the same parameters. Further, Ishikawa does not disclose the measurement of any physiological parameters; Ishikawa discloses a system including one or more transponders (i.e., sensors) for measuring radiation in a patient during tumor treatment and transmitting such data by radio frequency signals. Ishikawa does not describe measuring pH or any other physiological parameters indicative of gastroesophageal reflux. Ishikawa mentions pH only once, in reference to the fact that a coating, such as phosphosilicate glass, may be applied to a transponder to enable the transponder to withstand very low pH levels.

The two sensors (envelope 12 and 14) disclosed in Reichstein both measure pH levels with one sensor (envelope 14) which may act as a control. See col. 4, lines 30-43. Not only do the two sensors measure the same parameter, but one sensor (envelope 14) acts as a sort of reference point to allow the other sensor to make the proper pH measurement. It is thus clear that the measurement of one sensor is dependent on the measurement of the other sensor.

Kumar discloses a system for monitoring the vital signs of a patient by having the patient wear a belt to which a plurality of sensors is attached. There is no discussion in Kumar regarding the use of a plurality of sensors adapted to be implanted in the body of a patient.

Regarding Stuebe et al., an apparatus for monitoring gastric acid reflux is disclosed which comprises a combination pH/pressure probe that is inserted in the patient's stomach to measure pH levels and pressure within the patient's stomach. Regardless of whether one argues that this combination probe comprises two sensors (i.e., a pressure sensor and a pH sensor) or one sensor, it is clear that the pH sensor is dependent on the pressure sensor and that a pH measurement cannot be done independent of the measurement of the pressure sensor.

In particular, it is disclosed in Stuebe that in order to make a pH measurement the combination probe is to be positioned at a proper location of the Lower Esophageal Sphincter (LES) indicated by a High Pressure Zone (HPZ). As discussed in the Background section of Stuebe et al. (col. 1, line 59 to col. 2, line 47), the accurate and proper way to measure the pH and thus reflux is to ensure that the pH probe is properly positioned in the High Pressure Zone which indicates the anatomical location of the LES. Thus, the invention disclosed in Stuebe et al. allows one to place the combination probe in the patient's stomach and then withdrawing said probe until the HPZ is located indicating that the pH probe is properly positioned to measure the pH. See col. 3, lines 3-16. Thus, although the combination probe can measure both pH and pressure, the pH measurement is dependent on the pressure measurement. In other words, a correct pH measurement cannot be performed independently of a pressure measurement.

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As such, Stuebe does not disclose a **plurality of sensors wherein each of the plurality of sensors is capable of independently measuring a physiological parameter indicative of gastroesophageal reflux.....** In essence, the combination probe in Stuebe et al., is in fact one sensor for measuring pH with one component of such sensor being a pressure measurement component that allows one to properly position the probe before the pH measurement is performed.

It is thus clear that because none of the cited references discloses the particular plurality of sensors recited in amended independent claim 50, there is no possible of combination of references that would render Applicants' claimed invention as recited in amended independent claim 50 obvious. Therefore, for at least the reasons stated above, claims 51-58 are thus allowable.

In view of the foregoing amendments and remarks, the pending claims (50-58) are deemed to be allowable. Their favorable reconsideration and allowance is respectfully requested.

Should the Examiner have any question or comment as to the form, content or entry of this Amendment, the Examiner is requested to contact the undersigned at the telephone number below. Similarly, if there are any further issues yet to be resolved to advance the prosecution of this application to issue, the Examiner is requested to telephone the undersigned counsel.

Please charge any fees associated with this paper to deposit account No. 50-3355.

Respectfully submitted,



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